

## Worksheet - Operating Systems

Review the powerpoint on *Operating Systems* (posted on the class website) to answer the following questions. You may also use online resources.

Remember to click on “Turn In” when you are done.

What is the name of the firmware first loaded by the computer on start-up? What is its role in the boot-up sequence?

The name of the firmware first loaded by the computer on start up is BIOS (Basic Input/Output System). The role in the boot-up sequence or BIOS checks if every hardware is running correctly.

What is the kernel? What is its role?

A kernel is a software program that manages I/O (Input/Output) requests from a software, and translates them into data processing instruction for the CPU and other computer components. The first thing a Kernel does is it detects for other installed hardwares. It does this by checking fixed set of known addresses. This is called **Autoprobing**.

How do we interface with operating systems? Name at least three ways.

We interface with Operating Systems by:

1. In the past, the OS was interfaced with a keyboard. This was known as a terminal Interface.
2. As nowadays the OS provides a Graphical User Interface, we can interface with the OS using a mouse or touch.
3. Graphical User Interface (GUI) is a user interface that allows the user to interact with electronic devices through graphical icons and/or visual indicators.

What is a *system call*? Note: You'll have to search online for this answer.

When a computer programs in user mode needs access to RAM or any other hard drive, the computer program will ask the kernel to provide access to that specific resource. This process is done Via System Call. When a program makes a system call the mode is switched from user to kernel mode. When the kernel provides the resources to the program the mode is switched from kernel mode back to user mode. An example of a system call is when you want to print something in google docs, as the computer program aka google doc will have to ask the kernel for access to the printer in order to print that document.

Microsoft has released several different operating systems. List 5 in chronological order (earliest first).

The 5 chronological orders include:

1. Windows 3.1
2. Windows 95
3. Windows XP
4. Windows 7
5. Windows 8
6. Windows 10

Why would someone install more than one operating system on their computer?

Someone would install more than one OS (Operating System) in their computer when they want to download and/or install a certain application or/and program that they cannot download on another OS.

What is a *mobile operating system*? Give three examples of them.

A mobile operating system are softwares that allow applications and other programs to run on smartphones, tablet PC, ipads and other devices.

Three examples of them are Apple IOS, Google Android, and Blackberry OS.

Some operating systems are *open-source*. What does this mean?

Some Operating System are open-source meaning that you don't have to pay a license fee for the Operating System and everyone has full control on the codes and they can change the code based on their needs. An example of open source operating system Linux.

Research two out of the four Operating Systems for the following mobile devices listed below. For each, describe at least one benefit and how they compare to an OS for a traditional desktop.

- a. iPad/iPhone
- b. Chromebook
- c. Samsung Galaxy Note(x)
- d. Microsoft Surface

Here are some resources to help you with this exercise:

OS X

<http://www.apple.com/macosx/>  
<http://osxbook.com/book/bonus/ancient/whatismacosx/>

#### Linux

<http://www.linux.org/>  
<http://www.linux.com/learn/resource-center/376-linux-is-everywhere-an-overview-of-the-linux-operating-system>

#### Windows

<http://www.microsoft.com/windows/>  
<http://msdn.microsoft.com/en-us/library/aa511448.aspx>  
<http://support.microsoft.com/kb/310429>  
<http://support.microsoft.com/kb/126449>  
<http://www.computerhope.com/shortcut/windows.htm>

#### ANSWER:

Ipad/iPhone all use iOS. The benefit of iOS is that they have one of the best safety, as they protect your system from external threats, they also have one of the best graphics and they are very easy and friendly to use. IOS compare to the OS of a traditional computer as tradition computers usually use window OS which is used mostly in Desktop Pc whereas iOS is mostly a mobile OS. The iOS is more easier and smoother to use than windows.

Chromebook use Chrome OS as their operating system. The benefit of Chrome OS is that it requires less hardware resources and is very fast and smooth to use. Chrome OS compare to the OS of a traditional desktop as chromebook is a lightweight OS and more safer than windows because windows let any apps install and attack your core files more freely which is why more virus attack windows than any other OS.